

POLAND / Physical Chemistry. Electrochemistry.

B

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60345.

**Abstract:** the cylindrical Cu anode was studied, and the equivalent electrical conductivity ( $\lambda$ ) and the viscosity of the solution ( $\eta$ ) were determined as well. It is shown that the EP takes place at E from +0.82 to +1.6 v (stand. H electrode).  $i(lim)$  increases linearly with  $m$  at the rise of  $m$  from 60 to 670 revolutions per min. At  $m = 400$  rev. per min., the experimental data are expressed by the equation  $1/i(lim) = A + Bc$ . It was found that  $\eta$  and  $1/\lambda$  depend linearly on  $c$ , and that  $i(lim)\eta = \text{const.}$  and  $i(lim)\lambda = \text{const.}$ , if  $c$  was changing. It is assumed that the limiting stage of the EP is the diffusion of the phosphoric acid radical to the anode surface, and that the conversion of Cu into  $Cu^{2+}$  proceeds through an intermediate formation of an oxide phase.

Card 2/2

40

ZEMBURA, Z.

B

POLAND / Physical Chemistry. Electrochemistry.

Abs Jour: Ref Zhur-Khimiya, No 19, 1958, 63894

Author : III. Kamecki Julian, Zembura Zdzislaw; IV.  
Zembura Zdzislaw

Inst : Not given  
Title : Anode Behavior of Metals. III. Iron in  
Solutions of Phosphoric Acid. IV. Copper in  
Solutions of Sodium Hydroxide.

Orig Pub: Roczn. chem., 1957, 31, No 1, 185-195; No 2,  
627-635

Abstract: III. The anode passivity of Fe and steel in  
1, 3, 20 and 40 n.H<sub>3</sub>PO<sub>4</sub>, as well as in 20  
n.H<sub>3</sub>PO<sub>4</sub> containing 1 and 2 mole/l. Fe at 20°,

Card 1/4

POLAND / Physical Chemistry. Electrochemistry.

B

Abs Jour: Ref Zhur-Khimiya, No 19, 1958, 63894

Abstract: was investigated. In the case of highly diluted solutions of  $H_3PO_4$ , hysteresis of the anode polarized curves (PC) is observed; in concentrated solutions of  $H_3PO_4$ , hysteresis is absent, and in a wide interval of potentials of the anode (V) the density of the current I does not vary. An increase in the quantity of Fe dissolved in the electrolyte does not change the form of PC. In 20 and 40 n. of  $H_3PO_4$ , the electropolishing of Fe and steel is possible in conditions which conform to the rising segment of PC in the area of  $O_2$  isolation. It is proposed that the passivity is specified by reactions of the type  $M+2OH^- \rightarrow MO+H_2O+2e^-$ . The differences of the form of PC in  $H_3PO_4$  solutions of various concentrations is explained by the different rate of dissolution.

Card 2/4

9

POLAND / Physical Chemistry. Electrochemistry.

Abs Jour: Ref Zhur-Khimiya, No 19, 1958, 63894

B

Abstract: of the layer of oxide in the acid. The results obtained indicate the possibility of protecting Fe and steel from corrosion during work in  $H_3PO_4$  solutions by means of anode polarization.

IV. An attempt is made to explain the mechanism of reaction which leads to Cu passivity in NaOH solutions (1.00; 4.52 and 12.88 n.), on the basis of the results of measuring anode PCs during electrolysis with fixed pressure, as well as  $V_A$  curves dependent on the t duration of electrolysis with  $I=\text{const}$ . The curves ( $I, V_A$ ) have a similar form for all NaOH solutions. The

Card 3/4

POLAND / Physical Chemistry. Electrochemistry.

B

Abs Jour: Ref Zhur-Khimiya, No 19, 1958, 63894

Abstract: curves can be separated into 4 sections ( $I$ ,  $v_A$ )  
and ( $v_A, t$ ); the first two represent the anode  
in an active condition, the third the passivity  
of the anode, the fourth the  $O_2$  separation. It  
is assumed that the passivity is caused not by  
 $Cu(OH)_2$ , but by a  $CuO$  layer. For Report II,  
see RZhKhim, 1958, 35551.

Card 4/4

10

ZEMBURA, Z.

Polarization of copper anodes in some electrolyte solutions; an abridged thesis. p. 479

WIADOMOSCI CHEMICZNE. (Polskie Towarzystwo Chemiczne)  
Wroclaw. Vol. 12, no. 8, Aug. 1958  
Poland/

Monthly List of East European Accessions Index (EEAI), LC, Vol. 8, no. 6, June 1959  
Uncl.

ZEMBURA, Z.

Anodic behavior of metals. VI. Limiting current during electrolytic polishing of copper in 20N  $H_3PO_4$  solution.  
Zdzisław Zembura and Włodzimierz Michalik (Akad. Górniczo-Hutnicza, Kraków, Poland). Roczniki Chem. 32, 1911-18 (1958) (English summary); cf. C.A. 53, 23046. —  
If the dissoln. rate depends only on the  $PO_4^{3-}$  ion concn. and  
not on the diffusion of dissolved Cu, the known equation for  
limiting c.d. is rewritten as follows:  $I_s = D_n F c_i / 1.8$ ,  
where  $D_n$  = coeff. of diffusion;  $n$  = valence of the phosphate  
ion.  $F$  = the faraday.  $t$  = thickness of the hypothetical

2

AEY

formed for the system Cu-20N H<sub>3</sub>PO<sub>4</sub> with various concns. of dissolved Cu.

A. Kreglewski

JW

1/1

9/

The anodic behavior of metals. V. Copper in H<sub>3</sub>PO<sub>4</sub> solutions, Zdzisław Żembiński (Akad. Górnictwa-Hutnicza, Kraków, Poland). *Rocznik Chemii*, 39, 420-42 (1959) (English summary); cf. *C.A.* 52, 2004; 53, 13825. — The relation between the anodic c.d. and the potential of flat immovable and of cylindrical Cu anodes at various velocities of rotation was studied in 1.0 and 20N H<sub>3</sub>PO<sub>4</sub> solns. The relation of anodic potential to the duration of electrolysis at const. c.d. was studied with flat anodes. Coatings on the anode corresponding to various stages of polarization were examd. The following mechanism is suggested: (a) the anode dissolves according to the reaction Cu = Cu<sup>4+</sup> + 2e. Dissolution is not notably influenced by the porous coatings on the anode. (b) At potentials corresponding to the plateau current, the dissolution rate of the anode is controlled by diffusion processes. In 20 or 40N H<sub>3</sub>PO<sub>4</sub>, Cu dissolves through a non-metalllo (oxide) phase, seemed as a compact, thin film on the Cu. In dil. H<sub>3</sub>PO<sub>4</sub>, the film is porous and Cu probably dissolves directly. Near 1.7.v., the evolution of O begins. A. Kreglewski

POLAND / Chemical Technology. Chemical Products and  
Their Application. Corrosion. Corrosion Control. H

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 42713.

Author : Sedzimir J., Zembura Z.

Inst : Not given.

Title : Corrosion of Chrome Steel.

Orig Pub: Hutnik (Polska), 1958, 25, No 7-8, 303-307.

Abstract: A case of corrosion (C) is described involving storage of the stainless steel parts of a steam generator made of ST. 2H13 (0.16-0.24% C, 12-16% Cr) wrapped with well oiled and graphited asbestos tape. Before the storage the involved parts were subjected to a hydraulic (or steam-water) test at a temperature of 360°. These tests were conducted in a chamber for 72 hours, at 80°, and at high humidity conditions. The test involved determin-

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H-5

POLAND / Chemical Technology / Chemical Products and  
Their Application. Corrosion. Corrosion Control, H

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 42713.

**Abstract:** ation of the potential difference of the galvanic cell created by steel and graphite while employing 3% HCl solution. Curves of the cathode polarization of steel in 3% HCl solution were then determined. For the determination of the effects of grease decomposition products on C, water was analyzed after the treatment of greased tape in an autoclave. It was established that products of grease decomposition do not contain corrosive compounds (such as chlorides and sulfates), hence, their presence does not affect the rate of C. The basic reason of the existence of C is the contact between the chrome steel and graphite. Moreover, the increased rate of steel C is proportional to

Card 2/3

POLAND / Chemical Technology. Chemical Products and  
Their Application. Corrosion, Corrosion Control. H

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 42713.

Abstract: this contact (increased contact surface of cathode-graphite causes greater C). -- F. Smolyanskaya.

Card 3/3

H-6

ZEMBURA, Z.; KAMECKI, J.

"Anodic Behavior of Copper in Phosphoric Acid Solutions", p. 31, (POLSKA  
AKADEMIA NAUK, Vol. 2, No. 1, 1954, Varsovie, Poland)

SO: Monthly List of East European Accessions (EEL), LC, Vol. 4, No. 3,  
March 1955, Uncl.

ZEMBURA, Z.; KAMECKI, J.

"Current Potentials and Densities on Zinc Anodes in 7 N KOH in Dependence Upon Time", P. 175, (POLSKA AKADEMIA NAUK, Vol. 2, No. 4, 1954, Varsovie, Poland)

SO: Monthly List of East European Accessions (FEAL), LC, Vol. 4, No. 3, March 1955, Unclassified.

ZEMBURA, Z.; KAMECKI, J.

"The Anodic Polishing of Zinc in KOH Solutions", p. 181, (POLSKA AKADEMIA NAUK, Vol. 2, No. 4, 1954, Varsovie, Poland)

SO: Monthly List of East European Accessions (EEL), LC, Vol. 4, No. 3, March 1955, Uncl.

ZEMBURA, Z.; KUBAS, Z.; KAMECKI, J.

The anodic behavior of zinc in phosphoric acid solutions. In English. p. 281  
(FRAGMENTA FLORISTICA ET GEOBOTANICA, Vol. 2, No. 6, 1954, Krakow, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 5  
May 1955, Uncl.

BAKOWA, S.; BIELANSKA, A.; ZEMBUROWA, K.

Bacterial flora in diarrheas in infants. Polski tygod. lek. 11  
no.42:1793-1795 15 Oct 56.

1. Z Zakladu Mikrobiologii Lekarskiej A.M. w Krakowie; kierownik:  
prof. dr. Z. Przybylkiewicz i z Kliniki Chorob Dzieci A.M. w  
Krakowie; kierownik: prof. dr. W. Bujak, Krakow, ul. Czysta 18.  
Zaklad Mikrobiologii Lek. A.M.

(DIARRHEA, in infant and child,  
fecal bacteriol. in (Pol))

(FECES, microbiology,  
in diarrhea in inf. (Pol))

ZEMBURA, Zdzislaw

The anodic behavior of metals. VIII. Copper in sulfuric acid solutions.  
Rocznik chemii 33 no.4/5:1049-1059 '59. (EEAI 9:9)

1. Katedra Chemii Fizycznej i Elektrochemii Akademii Gorniczo-Hutniczej, Krakow.  
(Copper) (Sulfuric acid) (Solutions)  
(Polarization) (Anodes)

ZEMBURA, Z.

The anodic behavior of metals. VII. Anodic formation of coatings on Cu in  $\text{Na}_2\text{SO}_4$  solutions. p. 157.

ROCZNIKI CHEMII. (Polska Akademia Nauk) Warszawa, Poland, Vol. 33, No. 1, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, September 1959.  
Uncl.

ZEMBURA, Z.

The anodic behavior of metals, V. Copper in orthophosphoric acid solutions. p. 429.

ROCZNIKI CHEMII. (Polska Akademia Nauk) Warszawa, Poland, Vol. 33, no. 2, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 9, September 1959.  
Uncl.

OLAND

ORESZA, Alicja; Kryszyna ZEMBROVA and Jerzy PEGORLADSK;  
Department of Medical Microbiology (Zaklad Mikrobiologii  
Lekarskiej), AM (Akademia Medyczna -- Medical School), Kra-  
low, Director: Prof Dr Z. PRZYBYLKIEWICZ.

"The Immunoelectrophoretic Picture of the Blood Serum Pro-  
files in Patients with Infectious Hepatitis"

zakow Przemek Lebarski, Vol 18, No 12, 62, pp 463-466.

Abstract: Authors' English summary modified/ Immunoelec-  
trophoretic analysis was carried out on 64 serums taken  
between the first and 22nd day after the appearance of  
jaundice in patients with infectious hepatitis. The immuno-  
electrophoretic diagrams of the serums tested obtained with  
immunising rabbit serums and 1 immunising horse serum all  
showed hypoalbuminemia, hyper-beta<sub>1</sub>, hyper-beta<sub>2</sub> and hyper-  
gamma-globulinemia.

The changed immunoelectrophoretic picture of the beta-  
globulin fraction of the serums tested is of special interest

1/2

ZEMBUROWA, K.

Poland /Microbiology. Antibiosis and Symbiosis.  
Antibiotics.

F-2

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35576

Author : Porebska, A.; Zemburowa, K.

Title : The Sensitivity of Diphteria Bacilli to Some  
Antibiotics in vitro

Orig Pub: Med. doswiad. i mikrobiol. 1956, 8, No. 3,  
351-355

Abstract: Revealed was the bacterio-static activity of  
aureomycin and chloromycin in a concentration  
(in V/ml.) of 0.37-3 dihydro-streptomycin  
0.18-3 of terramycin 0.18-1.5; and also pennis-  
cillin 0.01-0.45 in relations to 155 strains of  
*Corynebacterium diphtheriae* (121 of the gravis  
type, 34 of mitis).

Card 1/1

POLAND

LASKOWNICKA, Zofia; PORERSKA, Alicja; and ZEMBUROWA, Krystyna; Department of Medical Microbiology at the Krakow Medical Academy (head: Prof Dr Z. PRZYBYLKIEWICZ)

"The Bjorklund Method as Applied to the Serological Typing of *Candida Albicans* Strains."

Warsaw, Medycyna Doswiadczała i Mikrobiologia, Vol 18, No 2, 66, pp 171-176

Abstract [authors' Russian and English summaries, modified]: Serological analysis was performed on 147 *Candida albicans* strains isolated from various clinical materials. Agar gel precipitation was applied as modified by Bjorklund. Autolysates prepared from the tested strains and from Hasenclever standard strains types A and B were used as antigens, and rabbit immune sera *C. albicans* type A. Among the 147 tested strains isolated from 107 patients, 9.3 percent were type B and 90.7 percent were type A. Eleven Western references.

1/1

POLAND

LASKOWNICKA, Zofia; POREBSKA, Alicja; and ZEMBUROWA, Krystyna; Department of Medical Microbiology at the Krakow Medical Academy (head: Prof Dr Z. PRZYBYLKIEWICZ)

"Immunological Evaluation of Candida Albicans Antigens. Part 1. Complement-Fixation Test."

Warsaw, Medycyna Doswiadczała i Mikrobiologia, Vol 16, No 2, 66, pp 177-182

Abstract [authors' Russian and English summaries, modified]: Antigenic activity was compared in preparations obtained from seven strains of Candida albicans type A by sonication of cells, grinding with sand, autolysis, and acetone precipitation of the culture medium. Antigens prepared by the above methods were found to be equally suitable for complement-fixation tests. Their activity was high in the test, the titers ranging from 1:512 to 1:8192. 14 Western references.

1/1

POL (RP)

LASKOWNICZA, Zofia; POBEDZKA, Alicja; and ZEMBUROWA, Kryszyna; Department of Medical Microbiology at the Krakow Medical Academy (head: Prof Dr Z. PRZYBYLKIEWICZ)

"Immunological Evaluation of Candida Albicans Antigens. Part 2. Agar Gel Precipitation Test."

Warsaw, Medycyna Doswiadczenia i Mikrobiologia, Vol 18, No 2, 66, pp 183-187

Abstract [authors' Russian and English summaries, modified]: The specific precipitation inhibition test according to Bjorklund was found to be highly applicable in determining serotypes of the tested strains. An analysis of 16 human sera, previously tested by complement-fixation, permitted the detection of antibodies in two cases. One precipitation band was found in tests with these antibodies. One Soviet-bloc and 15 Western references.

1/1

PRZYBYLKIEWICZ, Zdzislaw; ZEMBUROWA, Krystyna; POREBSKA, Alicja;  
KWIATKOWSKA, Eugenia; GARLICKA, Zdzislawa; PAJOR, Zdzislaw

Investigations on the immunology of diseases of central nervous  
system in children. Neurol. neurochir. psychiat. Pol. 15 no.4:  
625-633 Jl-Ag '65.

1. Z Zakladu Mikrobiologii Lekarskiej AM w Krakowie (Kierownik:  
prof. dr. Z. Przybylkiewicz) i z Kliniki Psychiatrycznej AM w  
Krakowie (Kierownik: prof. dr. K. Spett).

POREBSKA, Alicja; ZEMBUROWA, Krystyna

Specific gel precipitation. Postepy hig. med. dosw. 17 no.1/2:  
1-30 '63.

1. Z Zakladu Mikrobiologii Lekarskiej IM w Krakowie Kierownik:  
prof. dr Z. Przybylkiewicz.  
(ANTIBODIES) (ANTIGENS)

POREBSKA, Alicja; PRZYBYLKIEWICZ, Zdzislaw; ZEMBUROWA, Krystyna

Typing of Corynebacterium diphtheriae isolated in the Krakow  
region during 1955. Med. dosw. mikrob. 8 no.3:345-350 1956.

1. Z Zakladu Mikrob. Lekarskiej AM w Krakowie.  
(CORYNEBACTERIUM DIPHTHERIAE,  
typing strains isolated in Poland (Pol))

PORĘBSKA, Alicja; PRZYBYLKIEWICZ, Zdzisław; ZEMBUROWA, Krystyna

Determination of toxicity of *Corynebacterium diphtheriae* in vitro. Postepy hig. med. dosw. 10 no.4:389-400 1956.

1. Zakład Mikrobiologii Lekarskiej AM, Kraków, ul. Czysta 18.  
(*CORYNEBACTERIUM DIPHTHERIAE*,  
toxin, determ. of prod. in vitro (Pol))

POREBSKA, Alicja; ZEMBUROWA, Krystyna

Sensitivity of *Corynebacterium diphtheriae* to certain antibiotics  
in vitro. Med. dosw. mikrob. 8 no.3:351-355 1956.

1. Z Zakladu Midrob. Lekarskiej AM w Krakowie.  
(*CORYNEBACTERIUM DIPHTHERIAE*, effect of drugs on,  
antibiotics (Pol))  
(ANTIBIOTICS, effects,  
on *Corynebacterium diphtheriae* (Pol))

EXCERPTA MEDICA Sec 13 Vol 13/6 Dermatology June 59

1500. COMBATING OF PEDICULOSIS BY MEANS OF AZOTOX-IMPREGNATED LINEN. II - Zwalczanie wszawicy przez zastosowanie bieлизny impregnowanej azotoxem. II. - Starzyk J. and Zemburowa K. Zakt. Mikrobiol. Lek. Akad. Med., Kraków - ARCH. IMMUNOL. TERAP. DOSW. (Wruckaw) 1956, 4 (461-472) Graphs 15

Body lice were used for biological tests and the modified Alexandrini method for chemical tests. Experiments performed in the laboratory and in the countryside showed the following: (1) The toxicity of azotox in impregnated linen decreases proportionally to the time of wearing and washing. (2) Linen impregnated with 4% azotox proved 38% efficient and contained 3% of the substance after 20 weeks of wearing and washing. (3) Linen impregnated with 4% azotox was suitable for combating pediculosis in the countryside. (4) Persons wearing azotox impregnated linen were free from pediculosis. (5) Persons subjected to these experiments exhibited neither toxic side effects nor skin lesions induced by azotox. (6) The results point to the possibility of mass campaigns against pediculosis by means of impregnated linen. (7) This method is superior to that of dusting, since it is more economical and readily applicable.

(XVII, 13)

POLAND/Zooparasitology - Ticks and Insects Vectors of Disease Agents.

G

Abs Jour : Ref Zhur Biol., No 1, 1959, 1039  
Author : Starzy, Jan; Zemburowa, Krystyna  
Inst : -  
Title : Eradication of Lice by Impregnation of Linens with Azotox  
Orig Pub : Arch. immunol. i terap. doswiadc., 1956 (1957), 4,  
          461-472

Abstract : For the extensive eradication of linen lice the materials were successfully impregnated with a 4% Azotox solution. After 20 weeks of washing and wearing the linens contained 3% of the active preparation and preserved an insecticide property. The preparation is nontoxic for humans.

Card 1/1

- 35 -

SEBALA, Antoni; ZEMBUROWA, Krystyna

New attempt at an early diagnosis of meningeal tuberculosis.  
Polski tygod.lek. 10 no.22:715 30 May '55.

1. z Kliniki Chorob Dzieci A.M. Krakow; kierownik: prof. dr  
Wl. Bujak i z Zakladu Mikrobiologii A.M. Krakow; kierownik:  
prof. dr Z Przybylkiewicz) Krakow, ul. Kolberga 15 n. 8.  
(TUBERCULOSIS, MENINGEAL, diagnosis  
early, progr.)

POLAND

POREBSKA, Alicja and ZEMBROWA, Krystyna, Department of Medical Microbiology (Zaklad Mikrobiologii Lekarskiej), AM [Akademia Medyczna, Medical Academy] in Krakow (Director: Prof. Dr. Z. PRZYSYKIEWICZ)

"Specific Precipitation in Gel."

Warsaw, Postepy Higieny i Medycyny Doswiadczonej, Vol 17, No 1-2, 63, pp 1-30.

Abstract: Referring the reader for the theoretical background to the literature, the authors review the single, as well as double antigen-antibody diffusion tests in agar gel, dwelling in particular on the Ouchterlony method and its modifications, including the Crowle comparator, the identification of the specific precipitation lines, use for purposes of quantitative determination, and application to the study of various antigens. There are 292 references, almost exclusively Western (one Polish and four Czech, with possibly some of the German references being the exception).

1/1

PRZYBYLKIEWICZ, Zdzislaw; POREBSKA, Alicja; ZEMBUROWA, Krystyna; TUROWSKA,  
Bozena

Immunolectrophoretic analysis of rabbit precipitins against human  
serum proteins. II. Heterologous reaction. Acta med. pol. 4 no.1:  
127-142 '63.

I. Department of Medical Microbiology, Medical Academy, Cracow  
Director: Prof. Dr. Z. Przybylkiewicz Serum and Vaccine Production  
Laboratories, Cracow Director: Dr. Z. Moszczenski.  
(IMMUNOELECTROPHORESIS) (PRECIPITINS)

PRZYBYLKIEWICZ, Zdzislaw; POREBSKA, Alicja; ZEMBUROWA, Krystyna;  
TUROWSKA, Bozena

Immunolectrophoretic analysis of rabbit precipitins against human  
serum proteins. I. Homologous reaction. Acta med. pol. 4 no.1:  
105-125 '63.

1. Department of Medical Microbiology, Medical Academy, Cracow  
Director: Prof. Dr. Z. Przybylkiewicz. Serum and Vaccine Production  
Laboratories, Cracow Director: Dr. Z. Moszczenski.  
(PRECIPITINS) (IMMUNOELECTROPHORESIS)

POREBSKA, Alicja; ZEMBUROWA, Krystyna

Utilization of Linggood's medium in the determination of toxic properties of Corynebacterium diphtheriae in vitro. Postepy hig. med. dosw. 12 no.3: 293-294 1958.

1. Zaklad Mikrobiologii Lekarskiej AM. Krakow, ul. Czysta 18.  
(CORYNEBACTERIUM DIPHTHERIAE,  
virulence, determ. with Linggood's culture medium (Pol))  
(CULTURE MEDIA)  
Linggood's medium, determ. of Corynebacterium diphtheriae  
virulence (Pol))

ZEMBUROWA, R.

BAKOWA, S.; BIELANSKA, A.; ZEMBUROWA, R.

Phagocytic index in infant diarrheas. Pediat. polska 29 no.5:  
495-500 May 54.

1. Z Kliniki Chorob Dzieci Akademii Medycznej w Krakowie,  
Kierowniki: prof. dr med. W.Bujak i z Zakladu Mikrobiologii  
Lekarskiej Akademii Medycznej w Krakowie, Kierownik: prof. dr med.  
Z.Przybylkiewicz.

(DIARRHEA, in infant and child,

\*phagocytic index in)

(PHAGOCYTOSIS, in various diseases,

diarrhea in inf.)

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964420002-3

ZEMCHENKO, I.A. (Kuybyshev)

Feldsher V.D. Andreev. Fel'd. i akush. 23 no.9:58 S'58 (MIRA 11:10)  
(ANDREEV, VLADIMIR DMITRIEVICH, 1894-)

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964420002-3"

ZEMCHENKO, I.A., fel'dsher (Kuybyshev)

Work practices of a feldsher-midwife station. Fel'd. i akush.  
23 no.4:45-46 Ap '58. (MIRA 11:4)  
(MEDICINE, RURAL)

ZEMCHENKOV, I., gornyy master.

Speed up the introduction of workers' suggestions. Bezop.  
truda v prom. 1 no.6:39 Je '57. (MIRA 10:7)

1. Shakta "Pionerskaya" tresta Belovugol'.  
(Kuznetsk Basin--Coal mines and mining)

ZEMCHENKO, I.A., fel'dsher (selo Klimovka Kuybyshevskoy oblasti)

How we conduct our health education work in villages. Fel'd. i  
akush. 21 no.7:47-48 Jl '56. (MIRA 9:10)  
(PUBLIC HEALTH, RURAL)

ZEMCHOROVSKAYA, G.A.

Pseudopositive reactions. Vest.ven. i derm. no.3:57 My-Je '56.  
(MLRA 9:9)  
1. Iz L'vovskogo kozhno-venerologicheskogo instituta.  
(SYPHILIS--DIAGNOSIS--WASSERMAN REACTION)

ZEMCIK, Tomas

Determination of some structural properties of crystals  
from the directional dependence of the g-factor. Cs cas  
fys 14 no.3:186-194 '64.

1. Institute of Metal Properties, Czechoslovak Academy of  
Sciences, Brno.

ZEMEK, M.

"Iron Industry in the Zdar Area", P. 16, (CESKY LID, Vol. 40, No. 1,  
Feb. 1953, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12,  
Dec. 1954, Uncl.

Guzera, Jan; ZEMEL, Irena

The present and the future of the Wyszkow Furniture Plant; an optimistic report. Przem drzew 13 no.2:28-30 '52.

1. Redaktor dzialowy miesiecznika "Przemysl Drzewny" (for Guzera)
2. Sekretarz redakcji miesiecznika "Przemysl Drzewny" (for Zemel).

ZEMEL', Yu.

The "Baku" radio receiver. Radio no.8:17-19 Ag '53. (MLRA 6:8)  
(Radio--Receivers and reception)

USSR/Electronics - Radio Receivers

July 53

ZEMEL' YU.

"The 'Baku' Radio Receiver," Yu. Zemel'

Radio, No 8, pp 17-20

The Min of Local Industry, Azerbaydzhian SSR, is producing the "Baku" receiver, a ~~xxxxxx~~ 6-tube, class II superheterodyne with long-, medium-, and <sup>2</sup> short-wave bands. Provision is made for a second speaker to operate from 30-v wired radio networks. Sensitivity is about 200  $\mu$ v on the long- and medium-wave bands and about 300  $\mu$ v on the short-wave bands. The rated output power is 1.5 w.

261-T75

ZEMEL', Yu. Ya., inzh.

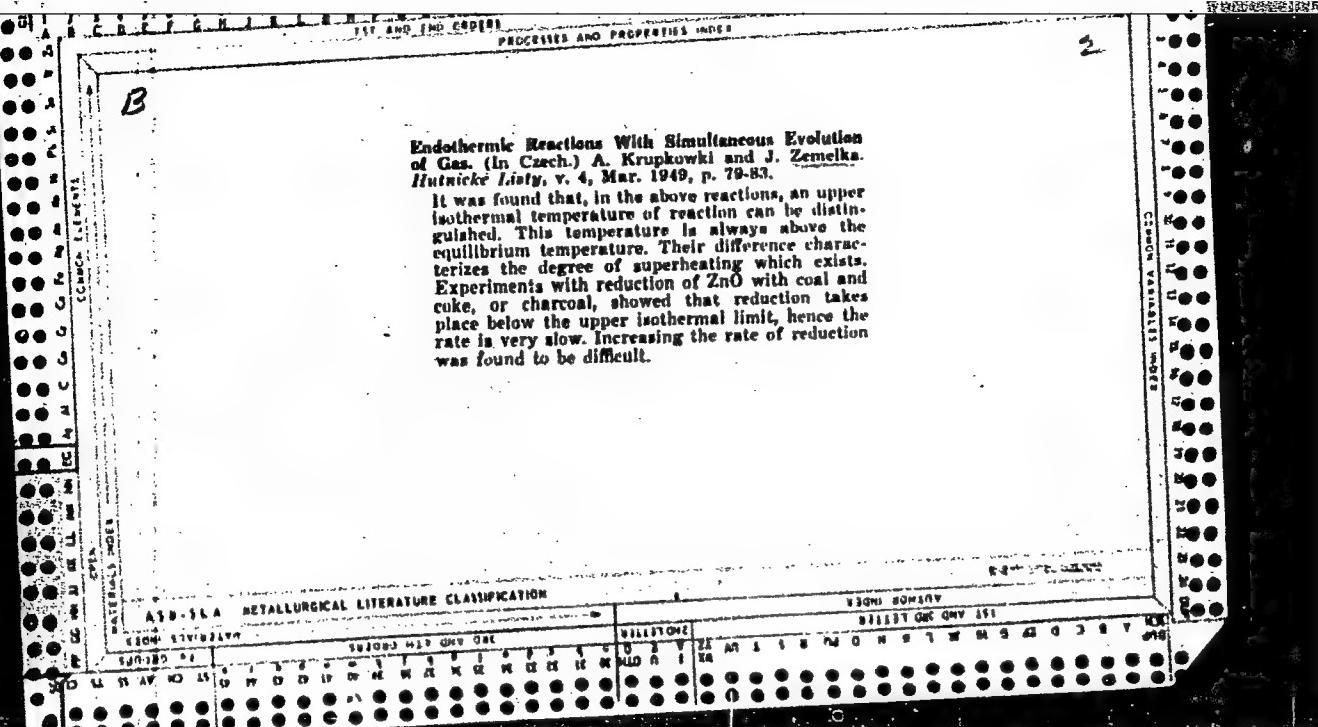
Illuminants of the subway station "Rizhskaya." Svetotekhnika 4  
no. 7:13 J1 '58. (MIRA 11:?)

1. Rizhskiy zavod elektrostanovochnykh izdeliy.  
(Subways)  
(Lighting, Architectural and decorative)

ZEMEL', Yu.Ya., inzh.

Production of lighting fixture in France. Svetotekhnika 6 no.6;13-16  
Je '60. (MIRA 13:?)

1. Rizhskiy svetotekhnicheskly zaovd.  
(France--Electric lamps)



ENDOTHERMIC REACTIONS ACCOMPANIED BY GAS EVOLUTION A Krupkowsk<sup>i</sup>  
and J. Beneska. *Jednolka Listy* 1949, vol. 4, Mars., pp 79-83.  
In Czech. In endothermic reactions between solid bodies which  
are accompanied by evolution of gases, a particular temperature, the  
upper isothermal temperature can be distinguished. This  
temperature is easily determined and is always higher than the  
equilibrium temperature. The difference between the two  
temperatures characterizes the degree of overheating of the system  
of solids above equilibrium temperature. In industrial processes  
endothermic reactions which are accompanied by gas evolution  
usually occur at temperatures equal to or lower than the upper  
isothermal temperature and the reaction is the slower the further  
the temperature is below the upper isothermal one.

S

ENDOTHERMIC REACTIONS ACCCOMPANIED BY GAS EVOLUTION-A Krupkowski  
and J. Nemalke. Jutnickie Listy 1949, vol. 4, Mar., pp 79-83.  
In Czech. In endothermic reactions between solid bodies which  
are accompanied by evolution of gases, a particular temperature, the  
upper isothermal temperature can be distinguished. This  
temperature is easily determined and is always higher than the  
equilibrium temperature. The difference between the two  
temperatures characterizes the degree of overheating of the system  
of solids above equilibrium temperature. In industrial processes  
endothermic reactions which are accompanied by gas evolution  
usually occur at temperatures equal to or lower than the upper  
isothermal temperature and the reaction is the slower the further  
the temperature is below the upper isothermal one.

## ASA-15A METALLURGICAL LITERATURE CLASSIFICATION

6-2-7500-1000000

Ergone Rovnost

Ergone Rovnost

Ergone Rovnost

Ergone Rovnost

CA

2

Endothermic reactions accompanied by gas evolution.  
 A. Krupkowski and J. Zenwka, *Metallurgia* 4, 79-83 (1949).—In endothermic reactions between solid bodies that are accompanied by evolution of gases a special temp., the so-called upper isothermal temp., can be distinguished. This temp. is always higher than the equil. temp., and the difference between this and the equil. temp. characterizes the degree of overheating of the system of solids above the equil. temp. In industrial processes endothermic reactions accompanied by gas evolution usually occur at temps. equal to or lower than that of the upper isothermal temp., and the reaction is slower, the lower the temp. In below the upper isothermal one. Kapta, made in a retort of a Zn furnace show that the reduction of ZnO with a mixt. of ordinary coal and coke, or with charcoal alone takes place at a temp. lower than the upper isothermal temp., and therefore the reduction process  $ZnO + C$  is very slow. Increased activity of the reductant increases the speed of the reduction process only very slightly, and only an increased heat input effects a speed-up of the process. E. Gross

## ASH-TRAIL METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED	SEARCHED AND INDEXED	SEARCHED AND SERIALIZED	FILED
SEARCHED	SEARCHED AND INDEXED	SEARCHED AND SERIALIZED	FILED

ZIELKA, J.

Progress in the technology of belts made from nonferrous metals in relation to national needs. p. 200.

HUTNIK, Katowice, Vol. 22, no. 6, June 1955.

SO: Monthly List of East European Accessions, (MEAL), LC, Vol. 4, no. 10, Oct. 1955,  
Uncl.

ZEMEL'-KOGAN, R.I.

"The Clinical Aspects and Course of Scarlet Fever in Conjunction with Measles," Pediatrics, No.2, 1948. Decent., Chair Children's Infectious Diseases, Pediatric Faculty, Sverdlovsk Med. Inst., -cl948-.

ZEMEL'MAN, A.

Labor productivity in the zinc and lead industries of the U.S.A.  
Biul. nauch. inform.: trud i zar. plata 5 no.6:55-61 '62.

(MIRA 15:6)

(United States--Zinc industry--Labor productivity)  
(United States--Lead industry--Labor productivity)

AUTHOR: Zemel'man, B. M.; Bessmertnaya, F. S.

ORG: Dagestan Antiplague Station (Dagestanskaya protivochumnaya stantsiya)

TITLE: Immunological reorganization in persons repeatedly vaccinated against brucellosis at foci of infection

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 9, 1965, 78-81

TOPIC TAGS: infective disease, disease incidence, immunology

ABSTRACT: The authors had two groups of people under observation who worked under different epizootiological conditions; they studied the effect produced by repeated vaccination on sensitization. The number and degree of evidence of positive reactions to brucellosis in the vaccinated persons are mainly determined by the massiveness of the foci of infection in which they work. It is very doubtful that repeated vaccination can cause hypersensitization in people, but in all probability it can intensify, in vaccinated persons, a state of hypersensitization which arises when they are repeatedly infected when working in a focus of infection. The authors use the data obtained as grounds to conclude that persons with positive immunological reactions to brucellosis should be excluded from vaccination. Orig. art. has: 2 tables.

32  
B

ZEMEL'MAN, B. Ya.

Fuel Abstracts  
Vol. 15 No. 3  
Mar. 1954

Gaseous Fuels: Properties and  
Treatment

2062. APPARATUS FOR REMOVAL OF SOLIDS FROM GASES GENERATED IN  
SUBTERRANEAN GASIFICATION. Zemel'man, B. Ya. (U.S.S.R. P. 77,273/1949;  
from abstr. In Chem. Abstr., 1952, Vol. 47, 10202). The scrubbing apparatus  
is placed directly in the drill holes taking up the gas. H.D.

ZEMEL'MAN, B.Ya.

Apparatus for removal of solids from gases generated by subterranean  
gasification. Patent U.S.S.R. 77,273, Dec. 31, 1949.  
(Ca 47 no.19:10202 '53)

21

Subterranean gasification of solid fuels. B. Ya. Zemelman. Russ. 54,408, Jan. 31, 1939. The operator is carried out under pressure to intensify the process and to regulate the caving of the roof.

ASS-1A METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED 12/10/54

SEARCHED 12/10/54

SEARCHED 12/10/54

SEARCHED 12/10/54

ILYUKOVICH, Askol'd Mikhaylovich; ZEMEL'MAN, M.A., red.; LARIONOV,  
G.Ye., tekhn. red.

[Electric meters; their theory, calculation and design]  
Elektricheskie schetchiki teoriia, raschet i konstruktsii.  
Moskva, Gosenergoizdat, 1963. 383 p. (MIRA 16:10)  
(Electric meters)

ZEMEL'MAN, M.A.

Transition process in voltage converters in a time interval  
for digital measuring systems. Izm. tekhn. no. 3843-47 Mr '64  
(MIRA 17:8)

ZEMEL'MAN, M.A.; KARELIN, N.M.; KIPARENKO, V.I.

Metrological problems in automatically controlled production.  
Izm.tekh.no. 4:19-20 Ap '64. (MIRA 17:7)

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964420002-3

VOSTROKNUTOV, N.N.; ZEMEL'MAN, M.A.

Metrological characteristics of precision voltage stabilizers  
and methods for their investigation. Izm. tekhn. no.1:38-41  
Ja '64.  
(MIRA 17:11)

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964420002-3"

ZEMEL'MAN, MA

50 C

L 43182-65 /EWP(d)/EWP(e)/EWP(v)/T/EWP(k)/EWP(1) PI-4

ACCESSION NR: AP5001677

S/0115/64/000/009/0058/0059

70

AUTHOR: none

18

B

TITLE: Fourth scientific and technical conference on "Cybernetics for the improvement of measurement and inspection methods"

SOURCE: Izmeritel'naya tekhnika, no. 9, 1964, 58-59

TOPIC TAGS: cybernetics, electric measurement, electric quantity instrument, digital computer, electronic equipment, electric engineering conference

ABSTRACT: The conference was held 1-4 July at the All-Union Scientific Research Institute of Metrology by the Section of Electrical Measurements of the Council on the Problem of "Scientific Instrument Making" of the State Committee on Coordination of Scientific Research Work in the USSR together with the All-Union Scientific Research Institute of Electrical Measurement Instruments and the Leningrad Regional Administration of the Scientific and Technical Division of the Instrument Making Industry. More than 400 delegates from 20 cities of the country participated. Fifty-seven reports were heard and discussed. Reports were given by: P. V. NOVITSKIY (Leningrad)--"Definition of the Concept of Informational Error in Measurement and its Importance in Practical Use" and "On the Problem of the Average Informational Criterion of Accuracy Throughout the Entire Scale of an Instrument"; Ya. A.

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L 41182-65  
ACCESSION NR. AP5004677

17

KUPERSHNIOT (Moscow)--"On Determination of the Criteria of Accuracy for Measurement Devices"; S. M. MANDEL'SHTAM (Leningrad)--report on a new criterion of accuracy of measurement instruments; P. P. PARSHIN (Leningrad)--report on optimisation when using Fourier transforms on electronic digital computers; S. P. DMITRIYEV, G. Ya. DOLGINTSEVA and A. A. IGNATOV (Leningrad)--proposal of a new method for solving problems of optimum filtering for non-stationary random signals and interference; I. B. CHELPANOV--"Calculation of the Dynamic Characteristics of an Optimum Complex Two-Channel System which Uses Signals from a Position Meter and from a Speed Meter"; R. A. POLUSKTOV (Leningrad)--"Optimum Periodic Correction in the Measurement of Continuous Signals"; S. P. ADAMOVICH (Moscow)--"Analysis and Construction of Devices for Correction of Non-linearity and Scaling for Unitary Codes"; G. V. GORELOVA (Taganrog)--"A Method for Statistical Optimization in Graduating the Scales of Electrical Measuring Instruments"; M. A. ZHEZEL'KAN (Moscow)--"Analog-Digital Voltage Converter with Automatic Error Correction"; E. N. MALINOVSKIY, V. S. KALENCHUK and I. A. YANOVICH (Kiev)--"Automatic Monitoring of the Parameters of the Electrical Signals of Complex Radio and Electronic Equipment"; V. P. PEROV (Moscow)--"Operational Cybernetics as an Independent Scientific Specialization"; Ye. N. GIL'BO (Leningrad)--"On the Problem of Effective Non-linear Scales"; A. I. MARKELOV (Moscow)--"Devices for Preliminary Processing of the Results of Measurements Presented in the Form of

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L 41182-65

ACCESSION NO: AP5001677

Graphic Recordings For Subsequent Introduction of the Information into Universal Digital Computers"; O. M. MOGILSVER and S. S. SOKOLOV (Leningrad)--"On a Method for Reducing Excess Information"; T. V. NIKOLAYEVA (Leningrad)--"A Device for Temporal Discretization of Continuous Signals"; A. A. LYOVIN and M. L. BULIS (Moscow)--"Optimization of the Transmission of Telemetric Information as a Means for Raising the Efficiency and Eliminating Interference"; D. E. GUKOVSKIY (Moscow)--"On a Statistical Approach to the Detection of Events in Automatic Inspection"; M. I. LANIN (Leningrad)--"Method for Calculating the Holding Time of Communications in a Centralized Inspection System or Constant Servicing Time"; O. N. BRONSHTEYN, A. L. RAYKIN and V. V. RYKOV (Moscow)--"On a Single-Line Mass Service System with Losses"; V. M. SHLYANDIN (Penza)--report on circuit designs for direct compensation electrical digital measuring instruments; A. N. KOKOV (Novocherkassk)--report on a new method for compensation of digital bridges; M. N. GLAZOV (Leningrad)--report on the problem of voltage-to-angular rotation conversion; V. S. GUTNIKOV (Leningrad)--"Methods for Construction of Frequency Capacitance Pickups with a Linear Scale"; R. Ya. SYROPYATOVA and R. R. KHARCHENKO (Moscow)--report on the determination of the amplitude-frequency and phase characteristics of PFM and PWM modulators; Ye. I. TSYAKOV (Novocherkassk)--"The Phototransistor as a Switch for Electrical Measurement Purposes"; N. V. MALYGINA (Leningrad)--a report on ways for making universal equipment for measurement of current, voltage and power; P. P. ORNATSKIY and V. I. ZOZULYA (Kiev)--reports on the construction of static voltmeters, wattmeters and

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ACCESSION NR: AP5004677

15

phase meters; A. V. TRIKHANOV, I. G. SMYSHLYAYEV, N. I. SABLIN, V. M. RAZIN and V. A. GORBUNOV (Tomsk)--report on a device for automatic processing of the measurements of vibration amplitude of pneumatic hammers; L. K. RUKINA and V. G. KNORRING (Leningrad)--report on the development of a digital compensator for measuring pressure, force, etc.; N. B. DADUKINA (Leningrad)--report on a method for constructing frequency pickups for gas analysis; Ye. M. KARPOV, V. A. BRAZHNICKOV and B. Ya. LIKHTSINGER (Kuybyshov)--reports on analysis and recording of boring speeds; Yu. V. PSHENICHNIKOV (Kuybyshov)--"A High Speed Voltage-to-Digital Code Converter for ac Pickups"; G. P. VIKHROV and V. K. ISAYEV (Vilna)--"A Highly Accurate Digital Peak-to-Peak Voltmeter"; and S. M. PERSIN (Leningrad)--"A Low Level Analog-Digital Voltage Converter."

ASSOCIATIONS: none

SUBMITTED: 00

ENCL: 00

SUB CODES: EE, EO

NO REF SOV: 000

OTHER: 000

JPRS

*me*  
Card 4/4

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964420002-3

ZEMEL'MAN, M.A.

Nonlinearity of voltage to time-interval conversion in digital  
measuring systems. Izm. tekhn. no.10:37-43 O '63. (MIRA 16:12)

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964420002-3"

ACCESSION NR: AP4026275

S/0115/64/000/003/0043/0047

AUTHOR: Zemel'man, M. A.

TITLE: Transients in voltage-time converters used in digital measuring systems

SOURCE: Izmeritel'naya tekhnika, no. 3, 1964, 43-47

TOPIC TAGS: transients, voltage time converter, digital measuring instrument, transients theory, balance detector

ABSTRACT: A theoretical analysis of diode balance detectors is set forth with special reference to (1) the effect of circuit parameters on the transient processes and (2) a determination of errors in multichannel converters. The mathematical description of transients is a continuation of the author's previous work (Izmeritel'naya tekhnika, 1963, no. 10). It is claimed that the final formula giving the transient time (or number of cycles) was experimentally verified and that "the experimental results agree well with the estimated ones." The

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ACCESSION NR: AP4026275

variation in a tube transconductance upon application of a positive pulse to its grid is considered to be responsible for a long transient time in a positive-feedback-type balance detector. Formulas are also derived for evaluation of an error occurring after a channel switch-over in a multichannel converter. To reduce the error, it is recommended that the input impedance and sampling frequency be selected as low as possible. Orig. art. has: 3 figures and 25 formulas.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 17Apr64

ENCL: 00

SUB CODE: IE, CG

NO REF SOV: 004

OTHER: 000

Card 2/2

ZEMEL'MAN, M.A.

New method for making filters for measuring devices. Izm.tekh.  
no.4:43 Ap '63. (MIRA 16:5)  
(Electric filters)

13,2940

33127  
S/115/61/000/012/001/005  
E198/E455

AUTHORS: Zemel'man, M.A., Tyurin, N.I.

TITLE: The evaluation of reliability and suitability for serial production of instruments in the national research

PERIODICAL: Izmeritel'naya tekhnika, no.12, 1961, 7-8

TEXT: Both the methods and the theory of checking the reliability and fitness for serial production of prototype measuring instruments are still incomplete. The difficulties are increased by the fact that, as a rule, only a few models, sometimes only one, are checked. Nevertheless, an approach permitting improvement in such checking is proposed. In order to ensure that the necessary technical characteristics are preserved in serial production, the design of the instrument must satisfy at least the two following conditions: 1) that all parts and components supplied as intermediate products are used strictly under prescribed conditions and 2) that the instruments retain the required characteristics when their parts and components, or at least the essential ones, all have the limiting (i.e. the "worst") admissible parameters. In addition, if the instrument contains a negative feedback circuit, this may

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33127

The evaluation of reliability ...

S/115/61/000/012/001/005  
E198/E455

considerably influence the readings and hamper the detection of undesirable characteristics in the components. It is therefore essential that in such instruments the tests in question are carried out with the negative feedback circuit open, and the necessary adjustments are made subsequently by computation. This is specially important when only one, or a small number of test models, is available for checking purposes.

Card 2/2

ZEMEL'MAN, M.A.

Multiplying device used in measurements. Izm.tekh. no.3:31-33  
'62. (MIRA 15:2)  
(Electronic digital computers)

ZEMEL'MAN, M.A.

Experimental investigation of an electronic voltage-to-time interval  
converter. Izm.tekh. no.4:22-27 '61. (MIRA 14:3)  
(Pulse techniques(Electronics))

ZEMEL'MAN, M.A.

Selecting parameters for radioisotope measuring instruments based  
on the attenuation of radiation. Trudy VMIK no.4:58-81 '60.

(MIRA 13:12)

(Radioisotopes—Industrial applications)

MIL'SHTEYN, Viktor Naumovich, prof. [deceased]; ZEMEL'MAN, M.A., red.;  
VORONIN, K.P., tekhn.red.

[Power relationships in electric measuring devices] Energetiko-  
cheskie sootnoshenija v elektroizmeritel'nykh priborakh. Moskva,  
Gos.energ.izd-vo, 1960. 311 p. (MIRA 13:7)  
(Electric meters)

GRIN, G.L.; ZEMEL'MAN, M.A.

Standard transducer of number of pulses for checking counting  
circuits of discrete measuring instruments. Izm.tekh. no.3:42-43  
Mr '59. (MIRA 12:4)

(Pulse techniques (Electronics)) (Transducers)

28(2)

SOV/115-59-7-19/33

**AUTHOR:** Zemel'man, M.A.**TITLE:** Measuring the Nonlinearity of a Sawtooth Voltage**PERIODICAL:** Izmeritel'naya tekhnika, 1959, Nr 7, pp 38-40 (USSR)**ABSTRACT:** The VNII of the Komitet standartov, mer i izmeritel'nykh priborov (Committee of Standards, Measures and Measuring Instruments) developed a device for measuring small nonlinearities of sawtooth voltages with the required accuracy. This device differentiates a sawtooth voltage for a subsequent measurement of that differentiated pulse section, which corresponds to the working section of the sawtooth voltage, as explained by D.I. Atayev (Ref.1). The block diagram of this device is shown in fig.3. The differentiated pulse enters an amplifier composed of one section of a 6N6P tube, proceeds to the phase inverter with a 6P9 tube, to the limiter-amplifier with 6Kh6 and the other section of the 6N6P tube, and finally to the oscilloscope 25I. A model of this device was used for measuring with a 10 per cent accuracy a 0.06 per cent nonlinearity in sawtooth voltages with an amplitude of 100 volts and a duration of 100 microseconds. With other parameters of the

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SOV/115-59-7-19/33

**Measuring the Nonlinearity of a Sawtooth Voltage**

sawtooth voltage, the nonlinearity measuring ranges will change accordingly. The device described may be used for tuning and investigating sawtooth voltage generators which are one of the basic units of automatic measuring devices, based on converting analogue data, to digital data. S.V. Rypalev participated in the development of the aforementioned device. There are 1 block diagram, 2 graphs and 1 Soviet reference.

Card 2/2

ZEMEL'MAN, M.A.

New method for developing filters for measuring devices. Izm.tekh.  
no.7:21-24 J1 '62. (MIRA 15:6)  
(Electric filters)

ZEMEL'MAN, M.A.; TYURIN, N.I.

Using official testing of measuring instruments for the evaluation  
of their reliability and suitability for serial production, Izm.tekh.  
no.12:7-8 D '61. (MIRA 15:1)

(Measuring instruments--Testing)

28(5)

AUTHOR: Grin, G. L., and Zemel'man, M.A. SOV/115-59-3-19/29

TITLE: A Pulse Number Test Transmitter for Checking Counter Units of Discrete Action Measuring Instruments (Obraztsovyy datchik chisla impul'sov dlya poverki schetnykh skhem izmeritel'nykh priborov diskretnogo deystviya)

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 3, pp 42-43. (USSR)

ABSTRACT: The readings of electronic counters are usually accepted as being absolutely true. However, inaccuracies may occur which are not always noticed visually. For checking industrial discrete action measuring instruments with numerical reading (having electro-mechanical, gas-discharge or vacuum elements), having an upper limit of the frequency range of not more than 20-30 kc, a pulse number test transmitter was developed and built by the electronic instrument laboratory of VNII Komiteta standartov, mer i izmeritel'nykh priborov (All-Union Scientific Research In-

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SOV/115-59-3-19/29

A Pulse Number Test Transmitter for Checking Counter Units of Discrete Action Measuring Instruments

stitute of the Committee of Standards, Measures and Measuring Instruments). This device produces a pre-determined number of pulses of both polarities of different length, amplitude and pulse frequency. The number of pulses to be transmitted is controlled by the operator. This device, called ODChI (obraz-tsovyy datchik chisla impul'sov) is a photo-electronic device, consisting of an optical-mechanical unit with a rotating disk, and electronic control unit and a pulse sequence transmitter unit. The optical-mechanical unit consists of a rotating disk of 250 mm diameter having 300 rectangular openings near its rim and one close to its center. The light falling on two photoelements is interrupted by the rotating disk. The photoelements work on two channels. During one rotation of the disk, a series of pulses is created in the first channel by the openings near the rim, and one pulse by the opening near

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SOV/115-59-3-19/29

A Pulse Number Test Transmitter for Checking Counter Units of Discrete Action Measuring Instruments

the center of the disk in the second channel. The electric motor which drives the disk develops a maximum of 6,000 rpm which corresponds to 30,000 pulses per second. The length of the pulses can be varied from 1 to 30 microseconds with an amplitude of up to 80 v. It is difficult to obtain a higher frequency with this method. The electronic control unit is also divided into two channels. The second channel serves for forming rare pulses and contains a level trigger for converting the bell-shaped pulses from the photo-stages into rectangular ones, which are delayed by a blocking generator for exciting the next stage. Further there are a kipp relay and a trigger controlling the gate circuit. The gate circuit passes or blocks the passage of the working signal in dependence on the control signal. The channel I contains analogous pulse shaping elements. Any type of rectifier producing a stabilized

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SOV/115-59-3-19/29

A Pulse Number Test Transmitter for Checking Counter Units of Discrete Action Measuring Instruments

voltage may be used for the power supply. The accuracy of the ODChI was determined by oscillographs. It was used as a test device for the state tests of the scaler BK-3 and other electronic counting devices. Technician S.A. Zhurbenko participated in the development of the device. There are 2 diagrams.

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S/115/62/000/003/008/010  
E192/E382

AUTHOR: Zemel'man, M.A.

TITLE: A measuring multiplier device

PERIODICAL: Izmeritel'naya tekhnika, no. 3, 1962, 31 - 33

TEXT: An electronic time-pulse instrument for multiplying two direct voltages of 1 - 10 V (with a digital indication of the product) is described. A block diagram of the device is illustrated in Fig. 1. In this the converter 1 produces a sequence of short-pulse groups, each group consisting of two pulses. The time interval  $t_1$  between the two pulses is proportional to the input voltage  $U_x$ , i.e:

$$t_1 = A_1 U_x$$

The first of these two pulses opens a gate circuit 3 by means of the circuit 2, while the second pulse closes the gate (or the switch). The voltage at the output of the gate is

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S/115/62/000/003/008/010  
E192/E382

A measuring multiplier device

in the form of a train of rectangular pulses whose amplitude is equal to  $U_y$  and duration to  $t_1$ . The filter-amplifier 4 of the equipment indicates the DC component of this pulse train. The mean value of the voltage at the output of the digital voltmeter 5 is thus given by:

$$U = \frac{aA_1}{T} U_x U_y \quad (1)$$

where  $a$  is a constant coefficient and

$T$  is the repetition period of the pulses.

It is seen from Eq. (1) that the error in the output voltage of the multiplier is dependent on the errors of the converter 1, coefficient  $a$  and period  $T$ . The error of  $T$  can be made negligible by employing a tuning-fork or quartz oscillator as the frequency standard for the converter. The actual oscillator employed by the author was stabilized by a tuning fork. The converter is illustrated diagrammatically in Fig. 2. It

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S/115/62/000/003/008/010  
E192/E382

A measuring multiplier device

consists of: 1 - the tuning-fork timer-oscillator; 2 - a sawtooth voltage generator based on a pentode with anode-grid capacitance (Ref. 2: L.A. Meyerovich, L.G. Zelichenko - Pulse technique - "Sovetskoye Radio", Moscow, 1953); 3 and 4 - zero indicators based on a diode-transformer circuit with positive feedback (Ref. 3 - the author - Izmeritel'naya tekhnika, no. 4, 1961). The errors of the converter are analyzed in some detail. The gate is in the form of a six-diode circuit (Fig. 3). This circuit has the advantage of reducing the interference between the control circuit and the signal-modulation circuit and permitting connection of the modulated voltage  $e_c$  and the control voltage  $E_y$  to a common point. The filter-amplifier of the multiplier is based on a photo-compensated amplifier which also performs the function of a matching amplifier. Experimental investigation of this filter showed that the longest transient time of the multiplier was of the order of 0.5 sec and the amplitude of the AC component did not exceed 0.03% of the direct component. The error of the multiplier was of the order of

Card 3/4

ZEMEL'MAN, M.A.

Determining minimum permissible radiation flow from sources  
in radicisotope instruments. Izm.tekh. 20.no.1:51-54 Ja., '59.  
(MIRA 11:12)  
(Radioisotopes--Industrial Applications)

AUTHOR: Zemel'man, M.A. SOV/115-58-1-34/50

TITLE: Modern Automatic Electronic Potentiometers and Bridges  
(Sovremennyye avtomaticheskiye elektronnyye potentsiometry i mosty)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 1, pp 75 - 79 (USSR)

ABSTRACT: The article presents general information on the operating principles and design of modern automatic electronic potentiometers produced in USA, Great Britain, France, West Germany, and USSR. The author's information sources are foreign periodicals of the year 1953 and later. Soviet made instruments are compared with the foreign makes. It is stated that the USSR lags in the quantity of instrument types as well as in the utilizing of modern achievements in instrument design. The Institut Avtomatiki i telemekhaniki Akademii nauk SSSR (Institute of Automation and Tele-

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SOV/115-58-1-34/50

Modern Automatic Electronic Potentiometers and Bridges

mechanics of the AS USSR) has produced and tested a so-called ferroionic stabilizer for feeding the measuring circuit of automatic potentiometers, but it has not yet been introduced into industry. At present there are no automatic potentiometers with a.c. mains supply available. There are 5 diagrams.

1. Potentiometers--Operation    2. Electric bridges--Operation

Card 2/2

ZEMEL'MAN, M.A.

ZEMEL'MAN, M.A.

Modern automatic electronic potentiometers and bridges. Izm. tekhn.  
no.1:75-79 Ja-Y '58. (MIRA 11:2)  
(Potentiometer) (Electronic instruments)

Zemel'man, A.M.A.

MEASUREMENTS

"Modern Automatic Electronic Potentiometers and Bridges", by A.M.A.  
Zemel'man, Izmeritel'naya Tekhnika, No 1, January-February 1958, pp 75-  
79.

A survey article, discussing the general state of the art. It is noted that the status in Russia in this field is behind that of the western countries with respect to the number of types of automatic potentiometers produced and with respect to incorporating in such bridges the latest accomplishments in instrument-building techniques. Evidence of the need for development of such instruments in Russia is the fact that what instruments are built are developed not by the instrument-building organizations, but by the other organizations that find needs for such instruments, and that consequently such instruments are not made on a mass production basis but are rather custom built.

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ZEMEL'MAN, M. A.

235T46

USSR/Electricity - Voltage Regulation Aug 52  
Power Supplies

"Method for Precision Regulation of a DC Voltage," M. A. Zemel'man, Cand Tech Sci, Moscow State Inst of Measures and Measuring Instruments

"Elektrichestvo" No 8, pp 74, 75

Describes method and gives circuits for stabilization of dc voltage. Method will maintain a given voltage with accuracy of the order of hundredths of a percent under wide variations of supply voltage and load. Submitted 15 Sep 51.

235T46

ZEMEL'MAN, M.A.

Measurement range and frequency errors in electronic condenser frequency  
meters. Izm. tekhn. no.3:26-30 My-Je '55. (MLR 8:9)  
(Electronic measurements)

ZEMEL'MAN, M.A.

Effect of the shape of voltage curves on the indications of diode  
voltmeters with linear characteristics. Izm.tekh. no.4:49-54  
J1-Ag '56. (MLRA 9:11)

(Electron-tube voltmeter)

ZEMEL'YAN, M.A. (Moskva)

Relationship between random errors of an analog-to-digital converter with an automatic correction of systematic errors and the noise of elements of its circuit. Avtometriia no.2:  
59-62 '65. (MIRA 18:9)

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ACC NR: AP6015235 (N) SOURCE CODE: UR/0410/65/000/002/0059/0062

AUTHOR: Zemel'man, M. A. (Moscow)

ORG: none

TITLE: The relationship between random errors of an analog-to-digital converter with automatic correction of systematic errors and noise in its circuit elements. [Presented at the VI All-Union Conference on Automatic Control and Electric Measurement Methods, September 1964, Novosibirsk]

SOURCE: Avtometriya, no. 2, 1965, 59-62

TOPIC TAGS: analog digital converter, computer component, signal noise separation

ABSTRACT: The relationship between random errors and the zero-level fluctuations of the zero-element of an analog-to-digital converter was previously discussed by the author. In the present work, the author considers the relationship between the fluctuations of the slope of the sawtooth voltage, the amplitude, and the operation threshold on one hand and the circuit parameters and the noises of the converter on the other. In the analyzed converter, a diode-regenerating zero-element with positive feedback was used. It was found that the absolute value of the mean square deviation of the operation threshold  $\sigma_t$  does not depend on the condenser voltage. Thus, it follows that  $\sigma_t$  is a noise component of the zero-level of the zero-element. The second noise component

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